State of California
The Resources Agency
DEPARTMENT OF WATER RESOURCES
DIVISION OF FLOOD MANAGEMENT

2005
PROJECT
STRUCTURE REPORT

INSPECTION OF
FLOOD CONTROL STRUCTURES ON THE
SACRAMENTO AND SAN JOAQUIN RIVERS
AND THEIR TRIBUTARIES

Prepared By
The Flood Operations Branch

STATE OF CALIFORNIA
Arnold Schwarzenegger, Governor

THE RESOURCES AGENCY
Mike Chrisman, Secretary

DEPARTMENT OF WATER RESOURCES
Lester A. Snow, Director

DIVISION OF FLOOD MANAGEMENT
Rod Mayer, Acting Chief

This report was prepared under the direction of

Jay S. Punia, Chief ……..…… Flood Operations Branch

by

Rick Burnett…….. Water Resources Engineering Associate

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INTRODUCTION

The Sacramento and San Joaquin River Flood Control System is comprised of levees, bypasses and structures constructed on the rivers and tributaries throughout the Central Valley. The structures are a critical part of this system and are made up of fixed crest diversion weirs, controllable diversion structures, outfall structures, drop structures, and interior drainage pumping plants. This report reviews the maintenance of these facilities.

History of Report

The maintenance effort expended on these structures has been the subject of an annual report dating back to 1959. A report entitled, "Location, Description and Inventory of Miscellaneous Project Structures, Sacramento River Flood Control Project, and American River Flood Control Project", was issued and was followed shortly thereafter by a maintenance status report. Maintenance status reports on flood control structures have since been made on an annual basis.

Responsibility for Maintenance

The flood control structures included herein were, in general, constructed as an integral part of the flood control project, by the U.S. Army Corps of Engineers and the State of California. Operation and Maintenance manuals were issued by the constructing authority to the maintaining agency. Maintaining agencies agreed to be responsible for the maintenance of the project structures. The State of California makes periodic inspections of the quality of the maintenance performed by the maintaining agencies and reports its findings to those agencies. These inspections are made on behalf of The Reclamation Board by the Division of Flood Management, Flood Operations Branch.

The purpose of the inspection is to identify and report to the constructing authority and the maintaining agency any condition that may diminish the ability of the structure to perform its intended function.

GLOBAL POSITIONING (GPS)

SITE	GPS (WGS 84)
AMERICAN RIVER PUMPING PLANT NO.1 HOWE AVENUE STORM DRAIN D - 05	N 38º 35.076' W 121º 25.285'
AMERICAN RIVER PUMPING PLANT NO.1 WILLHAGGIN STORM DRAIN D - 43	N 38º 34.198' W 121º 22.500'
ASH AND BERENDA SLOUGH CONTROL STRUCTURES	N 37º 09.519' W 120º 07.470'
ASH SLOUGH DROP STRUCTURE NO. 1	N 37º 02.042' W 120º 26.518'
ASH SLOUGH DROP STRUCTURE NO. 2	N 37º 02.275' W 120º 26.422'
ASH SLOUGH DROP STRUCTURE NO. 3	N 37º 02.576' W 120º 26.191'
ASH SLOUGH DROP STRUCTURE NO. 4	N 37º 02.726' W 120º 25.796'
BEAR CREEK DIVERSION STRUCTURE	N 37º 15.292' W 120º 43.096'
BIG CHICO CREEK DIVERSION STRUCTURE	N 39º 45.710' W 121º 47.555'
BLACK RASCAL CREEK DROP STRUCTURE	N 37º 18.886' W 120º 23.781'
BUTTE SLOUGH DRAINAGE STRUCTURE	N 39º 11.826' W 121º 56.614'
BUTTE SLOUGH OUTFALL STRUCTURE	N 39º 11.724' W 121º 56.177'
CACHE CREEK SETTING BASIN WEIR AND DRAINAGE STRUCTURE	N 38º 40.953' W 121º 40.375'
CLOVER CREEK DIVERSION STRUCTURE	N 39º 10.623' W 122º 53.925'
DUCK CREEK DIVERSION WEIR AND CONTROL STRUCTURE	N 37º 56.303' W 120º 59.408'
EASTSIDE BYPASS CONTROL STRUCTURE	N 37º 12.263' W 120º 41.850'
EASTSIDE BYPASS DROP STRUCTURE NO. 1	N 36º 58.566' W 120º 22.924'
EASTSIDE BYPASS DROP STRUCTURE NO. 2	N 36º 58.583' W 120* 22.492'
ELK SLOUGH INLET STRUCTURE	N 38º 24.843' W 121º 31.379'
FREMONT WEIR	N 38º 45.540' W 121º 39.927'
FRESNO RIVER DIVERSION WEIR	N 36º 58.115' W 120º 15.330'
FRESNO RIVER DRAINAGE STRUCTURE	N 36º 58.710' W 120º 22.112'
GOMES LAKE PUMPING PLANT	N 37º 28.894' W 121º 02.797'
HIGHLAND CANAL DIVERSION WEIR AND DRAINAGE STRUCTURE	N 39º 07.579' W 122º 52.964'

GLOBAL POSITIONING (GPS)

SITE	GPS (WGS 84)
KNIGHTS LANDING OUTFALL STRUCTURE	N 38º 01.580' W 121º 43.511'
LINDO CHANNEL CONTROL STRUCTURE	N 39º 45.678' W 121º 47.827'
LINDO CHANNEL DIVERSION WEIR	N 39º 45.722' W 121º 47.837'
LITTLE CHICO CREEK CONTROL AND WEIR STRUCTURES	N 39º 44.014' W 121º 46.309'
MAGPIE CREEK PUMPING PLANT	N 38º 38.448' W 121º 22.263'
MARIPOSA BYPASS CONTROL STRUCTURE	N 37º 12.101' W 120º 41.696'
MARIPOSA BYPASS DROP STRUCTURE	N 37º 12.159' W 120º 45.314'
MIDDLE CREEK PUMPING PLANT	N 39º 08.538' W 122º 54.141'
MORMON SLOUGH PUMPING PLANT NO. 1	N 37º 59.378' W 121º 16.016'
MORMON SLOUGH PUMPING PLANT NO. 2	N 37º 58.939' W 121º 14.966'
MORMON SLOUGH PUMPING PLANT NO. 3	N 37º 58.439' W 121º 13.798'
MOULTON WEIR	N 39º 20.299' W 122º 01.326'
NELSON BEND	N 38º 53.665' W 121º 37.101'
NORTH FORK FEATHER RIVER DIVERSION CHANNEL DROP STRUCTURE DROP STRUCTURE NO. 3 THROUGH 7	N 40º 28.202' W 121º 25.120'
NORTH FORK FEATHER RIVER DIVERSION CHANNEL DROP STRUCTURE DROP STRUCTURE NO.1	N 40º 29.864' W 121º 26.123'
NORTH FORK FEATHER RIVER DIVERSION STRUCTURE	N 40º 30.292' W 121º 26.193'
OWENS CREEK CONTROL STRUCTURE	N 37º 13.190' W 120º 41.891'
OWENS CREEK OVERFLOW STRUCTURE	N 37º 12.350' W 120º 41.808'
OWENS CREEK SIPHON STRUCTURE	N 37º 15.771' W 120º 17.281'
PARADISE DAM	N 37º 45.633' W 121º 18.565'
RECLAMATION DISTRICT NO. 2063 PUMPING PLANT (Nelson Drain)	N 37º 23.867' W 120º 58.346'
SACRAMENTO WEIR	N 38º 36.319' W 121º 33.489'
SAN JOAQUIN RIVER AND CHOWCHILLA CANAL BYPASS CONTROL STRUCTURE	N 36º 46.439' W 120º 17.044'
SAN JOAQUIN RIVER STRUCTURE AND SAND SLOUGH STRUCTURE	N 37º 06.745' W 120º 35.358'

GLOBAL POSITIONING (GPS)

SITE	GPS (WGS 84)
SUTTER BYPASS PUMPING PLANT NO. 1	N 38º 55.914' W 121* 38.064'
SUTTER BYPASS PUMPING PLANT NO. 2	N 38º 01.580' W 121º 43.624'
SUTTER BYPASS PUMPING PLANT NO. 3	N 39º 07.202' W 121º 46.764'
SUTTER BYPASS WEIR NO. 2	N 39º 06.164' W 121º 45.522'
TISDALE WEIR	N 39º 01.619' W 121º 49.918'
WADSWORTH CANAL WEIR NO. 4	N 39º 09.206' W 121º 44.076'

CHAPTER I

FLOOD CONTROL STRUCTURES INSPECTED ON THE SACRAMENTO RIVER AND TRIBUTARIES

2005

NORTH FORK FEATHER RIVER
DIVERSION STRUCTURE
MAINTAINED BY PLUMAS COUNTY

1. **Condition of concrete diversion structure.**

   a. **Good.**

2. **Condition of the gauging house and equipment.**

   a. **Plumas County has discontinued use of the gauging house due to vandalism.**

3. **Condition of the steel trash racks.**

   a. **Good.**

4. **Condition of debris deflection structure.**

   a. **Good.**

5. **Condition of the revetments.**

   a. **Good.**

6. **Accumulation of trash and debris around structure or in the channel.**

   a. **Minimal amount of debris around the deflection structure.**

7. **Vegetation around the structure or in the channel.**

   a. **None.**

8. **Condition of the conduits.**

   a. **The United States Army Corps of Engineers contacts the county periodically to schedule conduit inspections. No contact has been made at the time of this inspection.**

NORTH FORK FEATHER RIVER
DIVERSION STRUCTURE
MAINTAINED BY PLUMAS COUNTY

9. Condition of the discharge structure.

a. Good.

10. Comments:

a. Good maintenance.

NOTE: Routinely, one of the three diversion structure conduits is jointly inspected each year with the Corps of Engineers and Plumas county.

NORTH FORK FEATHER RIVER
DIVERSION STRUCTURE
MAINTAINED BY PLUMAS COUNTY

The upstream side of the diversion structure at the inlet.

Debris partially blocking the structure inlet .

NORTH FORK FEATHER RIVER
DIVERSION STRUCTURE
MAINTAINED BY PLUMAS COUNTY

The outlet works from the top of the dam.

Use of the gauging house has been discontinued by Plumas County due to continued vandalism.

NORTH FORK FEATHER RIVER DIVERSION CHANNEL
DROP STRUCTURES 1 through 7
Maintained by Plumas County

1. **Condition of grouted rock revetment drop structures.**

   a. **Good.**

2. **Condition of channel banks upstream and downstream of the drop structures.**

   a. **Good.**

3. **Accumulation of trash and debris around the structures or in the channel.**

   a. **Minimal.**

4. **Vegetation around the structures, the channel banks or in the channel.**

   a. **Minimal growth exists in the channel.**

5. **Comments:**

   a. **Control vegetation in the channel.**

   b. **Good maintenance.**

NORTH FORK FEATHER RIVER DIVERSION CHANNEL
DROP STRUCTURES 1 through 7
Maintained by Plumas County

**View of Drop Structure No. 1 from the left bank.
Typical of all drop structures.**

**Looking north from the Hwy 36 bridge at drop
structures 3 through 7, note vegetation in the channel.**

CLOVER CREEK DIVERSION STRUCTURE

Maintained by
Lake County Flood Control and Water Conservation District

1. **Condition of concrete weir structure.**

   a. **Good.**

2. **Condition of the diversion structure and wing walls.**

   a. **Good.**

3. **Condition of the bulkhead.**

   a. **Good.**

4. **Condition of the control gates and mechanism.**

   a. **Good.**

5. **Accumulation of trash and debris around the structures or in the channel.**

   a. **Gravel has accumulated around the outlet pipes reducing the designed carrying capacity of the structure.**

   b. **Some gravel and rock needs to be removed on the upstream side.**

6. **Vegetation around the structures or in the channel.**

   a. **A lot of vegetation upstream from the gates needs to be cleared.**

   b. **There is dense vegetation in the creek channel, 30 feet downstream of the structure.**

7. **Comments:**

   a. **Remove the gravel buildup at the outlet.**

   b. **Remove accumulated rock, dirt, boulders and gravel upstream of weir.**

   c. **Remove the vegetation.**

   d. **Poor maintenance.**

CLOVER CREEK DIVERSION STRUCTURE
Maintained by Lake County Flood Control and Water Conservation District

View of the diversion structure gates at the intake.

Walkway and control gate mechanisms.

CLOVER CREEK DIVERSION STRUCTURE
Maintained by Lake County Flood Control and Water Conservation District

View of the structure outlet.
Gravel buildup has reduced flow.

View of the concrete weir downstream
of the diversion structure in the bypass channel.

MIDDLE CREEK PUMPING PLANT

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of main pump structure and switchboard house.**

   a. **Poor. The separation between the top of the surge box and the structure appears to have an eight and one half inch side displacement. The surge chamber has settled twelve inches since 1962 and is 7.6 feet below the top of the structure. There is approximately a two inch deflection. There have been no changes since last reported.**

2. **Condition of pumps and motors.**

   a. **Good.**

3. **Condition of electrical equipment.**

   a. **Good.**

4. **Condition of control gates, mechanisms, and flap gates.**

   a. **Good.**

5. **Condition of the trash racks.**

   a. **Good.**

6. **Condition of log boom.**

   a. **Good.**

7. **Condition of hydrographic facilities.**

   a. **Good.**

8. **Accumulation of trash or debris in the sump.**

   a. **None.**

9. **Vegetation in sump.**

   a. **Minimal.**

10. **Comments:**

    a. **DWR's Sutter Maintenance Yard performs routine maintenance year round and tests the equipment prior to each flood season.**

    b. **Fair Maintenance.**

MIDDLE CREEK PUMPING PLANT
Maintained by State of California
Sutter Maintenance Yard

View of the pumping plant, sump and trash racks.

8.5 inch side displacement between the structure and the surge chamber.

HIGHLAND CANAL DIVERSION WEIR AND DRAINAGE STRUCTURE

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of concrete weir structure and stilling basin.**

   a. **Good.**

2. **Condition of drainage structure.**

   a. **Good.**

3. **Condition of the concrete abutments and wing walls.**

   a. **There is a displacement between both wing walls and the structure, 2 inches on left wing wall and 2½ inches on the right wing wall. Displacement has been stable for at least 7 years.**

4. **Condition of the revetment.**

   a. **Good.**

5. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

6. **Vegetation around the structure or in the channel.**

   a. **Moderate.**

7. **Comments:**

   a. **Fair maintenance**

HIGHLAND CANAL DIVERSION WEIR AND DRAINAGE STRUCTURE

Maintained by State of California
Sutter Maintenance Yard

The concrete weir and diversion pipe intake.

View of the outlet pipes and channel.

BIG CHICO CREEK
DIVERSION STRUCTURE
Maintained by Butte County

1. Condition of concrete control structure.

    a. Good.

2. Condition of bulkheads.

    a. Good.

3. Condition of gate controls and mechanisms.

    a. Good.

    b. Butte Co. tests the gates prior to flood season.

4. Condition of revetment.

    a. Good.

5. Accumulation of trash and debris around the structure in the channel.

    a. None.

6. Vegetation around structure and in the channel.

    a. None.

7. Comments:

    a. Contact DWR inspector prior to gate test.

    b. Good maintenance.

BIG CHICO CREEK
DIVERSION STRUCTURE
Maintained by Butte County

View of the upstream side of the structure.

Downstream at discharge end of structure from the right bank.

LINDO CHANNEL DIVERSION WEIR
Maintained by Butte County

1. **Condition of concrete weir structure and stilling basin, and velocity dissipaters.**

   a. **There are minor joint separations on the north and south ends of the weir where it contacts the abutments. The separations appear to be stable.**

2. **Condition of concrete abutments and wing walls.**

   a. **Good.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

5. **Vegetation around structure or in the channel.**

   a. **None.**

6. **Condition of gauging house and equipment.**

   a. **Poor. The gauging house is non-functional.**

7. **Comments:**

   a. **Repair or replace the gauging house.**

   b. **Fair maintenance.**

LINDO CHANNEL DIVERSION WEIR
Maintained by Butte County

Upstream side of the structure from the left bank.

The velocity dissipaters on the downstream side of structure from the left bank.

LINDO CHANNEL CONTROL STRUCTURE
Maintained by Butte County

1. **Conditions of concrete control structure.**

   a. **Good.**

2. **Condition of bulkheads.**

   a. **There is a ½ inch separation in the joint between the south end bulkhead and the structure. This joint separation is stable.**

3. **Condition of control gates and mechanisms.**

   a. **Good.**

4. **Condition of revetment.**

   a. **Poor. The downstream rock and gunite skirt is severely damaged but appears to be stable.**

5. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

6. **Vegetation around the control structure or in the channel.**

   a. **None.**

7. **Comments:**

   a. **Butte County will test the control gates prior to flood season.**

   b. **Repair the rock and gunite skirt downstream of structure.**

   c. **Fair maintenance.**

LINDO CHANNEL CONTROL STRUCTURE
Maintained by Butte County

View of the upstream side of structure.

View of the downstream side of structure.

LITTLE CHICO CREEK CONTROL AND WEIR STRUCTURES
Maintained by State of California
Sutter Maintenance Yard

1. **Condition of concrete control structure.**

   a. **Good.**

2. **Condition of bulkheads and wing walls of the control structure.**

   a. **Previously reported separations and displacements are stable.**

3. **Condition of concrete weir, stilling basin, and velocity dissipaters.**

   a. **Minor cracks in the weir and minor spalling of concrete on the weir invert.**

4. **Condition of concrete bulkheads of the weir.**

   a. **Good.**

5. **Condition of bulkheads and fill between the control structure and the weir.**

   a. **Good.**

6. **Condition of the revetments.**

   a. **Good.**

7. **Condition of the gauging station and equipment.**

   a. **Good.**

9. **Accumulation of trash and debris around the structures or in the channel.**

   a. **Minimal debris in the stilling basin.**

10. **Vegetation around the control structure, the weir, or in the channel.**

    a. **Moderate growth upstream and downstream of the weir.**

LITTLE CHICO CREEK CONTROL AND WEIR STRUCTURES
Maintained by State of California
Sutter Maintenance Yard

11. Comments:

a. Previously reported undermining of the structure has been repaired.

b. Continue to monitor joint separation between the control structure and the abutments and repair as needed.

c. Sutter Maintenance Yard will remove vegetation upstream and downstream of the weir prior to flood season.

d. Remove debris from the stilling basin.

e. Good maintenance.

LITTLE CHICO CREEK CONTROL AND WEIR STRUCTURES
Maintained by State of California
Sutter Maintenance Yard

View of the upstream side of the control structure and gauge.

View of the downstream side of the control structure.

LITTLE CHICO CREEK CONTROL AND WEIR STRUCTURES
Maintained by State of California
Sutter Maintenance Yard

The weir and velocity dissipaters.

MOULTON WEIR
Maintained by State of California
Sutter Maintenance Yard

1. **Condition of concrete weir structure and stilling basin.**

   a. **Good.**

2. **Condition of concrete abutment and wing walls.**

   a. **Good.**

3. **Condition of revetments.**

   a. **Good.**

4. **Accumulation of trash and debris around structure or in the channel.**

   a. **None.**

5. **Vegetation around the structure or in the channel.**

   a. **None.**

6. **Condition of gauging house and equipment.**

   a. **Good.**

7. **Comments:**

   a. **Good maintenance.**

MOULTON WEIR
Maintained by State of California
Sutter Maintenance Yard

The weir and stilling basin from the top of the south abutment.

View of the gauging house directly upstream of the weir.

COLUSA WEIR

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of concrete weir structure and stilling basin.**
   (Note: Bridge across bypass is not part of the weir structure)

   a. **Good.**

2. **Condition of concrete abutment and wing walls.**

   a. **Good.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

5. **Vegetation around the structure or in the channel.**

   a. **None.**

6. **Condition of gauging house and equipment.**

   a. **Good.**

7. **Comments:**

   a. **Good.**

COLUSA WEIR
Maintained by State of California
Sutter Maintenance Yard

The upstream side of weir from the south levee.

View of the gauging house.
Sacramento River is in the background.

TISDALE WEIR
Maintained by State of California
Sutter Maintenance Yard

1. **Condition of concrete weir structure and stilling basin.**
   (Note: Bridge across bypass is not part of the weir structure)

   a. **Good.**

2. **Condition of concrete abutment and wing wall.**

   a. **Good.**

3. **Condition of revetments.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

5. **Vegetation around structure or in the channel.**

   a. **None.**

6. **Condition of gauging house and equipment.**

   a. **Good.**

7. **Comments:**

   a. **Good Maintenance.**

TISDALE WEIR
Maintained by State of California
Sutter Maintenance Yard

Upstream side of the weir from the south end.

Downstream side of the weir from the south end.

BUTTE SLOUGH OUTFALL STRUCTURE

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of walkway and supports.**

   a. **Good.**

2. **Condition of pipes.**

   a. **Good.**

3. **Condition of the control gates, mechanisms and flap gates.**

   a. **Good.**

4. **Condition of log boom.**

   a. **Good.**

5. **Condition of gauging house and equipment.**

   a. **Good.**

6. **Condition of revetment.**

   a. **Good.**

7. **Accumulation of trash and debris around the structure or in the channel.**

   a. **Minimal.**

8. **Comments:**

   a. **Sutter Maintenance Yard reports that all equipment is in good working order.**

   b. **Good Maintenance.**

BUTTE SLOUGH OUTFALL STRUCTURE
Maintained by State of California
Sutter Maintenance Yard

The intake side of the structure.

View of the outlet channel and the gauge house.

BUTTE SLOUGH DRAINAGE STRUCTURE

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of the corrugated metal pipe (CMP) drainage structure.**

   a. **Good.**

2. **Condition of the control gate, mechanisms, and flap gates.**

   a. **Good**

3. **Condition of the revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the inlet, in the pipe or in the channel.**

   a. **Minimal.**

5. **Vegetation around the structure or in the channel.**

   a. **The vegetation immediately around the in-take has been cleared. Growth is so dense that discharge end of structure cannot be seen.**

6. **Comments:**

   a. **Remove vegetation from discharge end of structure. If growth is not removed, the drainage structure could become non-functional.**

   b. **Fair maintenance.**

BUTTE SLOUGH DRAINAGE STRUCTURE
Maintained by State of California
Sutter Maintenance Yard

Partial CMP stand pipe protects the inlet.

View of the dense vegetation at the outlet.
Outlet pipes are not visible.

SUTTER BYPASS PUMPING PLANT NO. 1

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of the main pump structure.**

   a. **Good.**

2. **Condition of abutments and wing walls.**

   a. **Good.**

3. **Condition of pumps and motors.**

   a. **Good.**

4. **Condition of control gates, mechanisms, and flap gate.**

   a. **Good.**

5. **Condition of electrical equipment.**

   a. **Good.**

6. **Condition of trash rack.**

   a. **Good.**

7. **Condition of revetment.**

   a. **Good.**

8. **Accumulation of trash and debris in the sump.**

   a. **None.**

9. **Vegetation in the inlet channel.**

   a. **None.**

10. **Comments:**

    a. **Tests of pumps, motors and electrical equipment are conducted in October each year.**

    b. **Good maintenance.**

SUTTER BYPASS PUMPING PLANT NO. 1
Maintained by State of California
Sutter Maintenance Yard

The intake side of the pumping plant.
Note: Safety railing should be reinstalled.

The discharge side of the pumping plant.

SUTTER BYPASS PUMPING PLANT NO. 2

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of main pump structure.**

   a. **Good.**

2. **Condition of abutments and wing walls.**

   a. **Good.**

3. **Condition of pumps and motors.**

   a. **Good.**

4. **Condition of control gates, mechanisms, and flap gates.**

   a. **Good.**

5. **Condition of electrical equipment.**

   a. **Good.**

6. **Condition of the trash racks.**

   a. **Good.**

7. **Condition of revetment.**

   a. **Good.**

8. **Accumulation of trash or debris in the sump.**

   a. **Minimal.**

9. **Vegetation in the inlet channel.**

   a. **Minimal.**

SUTTER BYPASS PUMPING PLANT NO. 2

Maintained by State of California
Sutter Maintenance Yard

10. Comments:

a. Tests of the pumps, motors, and electrical equipment are conducted in October each year.

b. Good maintenance.

SUTTER BYPASS PUMPING PLANT NO. 2
Maintained by State of California
Sutter Maintenance Yard

The pumping plant, sump and trash racks from the intake side.

The discharge side of the pumping plant.

SUTTER BYPASS PUMPING PLANT NO. 3

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of main pump structure.**

   a. **Good.**

2. **Condition of abutments and wing walls.**

   a. **Good.**

3. **Condition of pumps and motors.**

   a. **Good.**

4. **Condition of control gate, mechanisms and flap gate.**

   a. **Good.**

5. **Condition of electrical equipment.**

   a. **Good.**

6. **Condition of the trash racks.**

   a. **Good.**

7. **Accumulation of trash or debris in the sump.**

   a. **None.**

8. **Vegetation in the inlet channel.**

   a. **Minimal.**

9. **Comments:**

   a. **Tests of the pumps, motors and electrical equipment are conducted in October each year.**

   b. **Good maintenance.**

SUTTER BYPASS PUMPING PLANT NO. 3
Maintained by State of California
Sutter Maintenance Yard

The inlet side of the pumping plant.

The discharge side of the pumping plant.

WADSWORTH CANAL WEIR NO.4

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of concrete weir structure.**

   a. **Good.**

2. **Condition of concrete abutments.**

   a. **Good.**

3. **Accumulation of trash and debris around the structure or in the channel.**

   a. **Minimal.**

4. **Vegetation around structure or in the channel.**

   a. **None.**

5. **Comments:**

   a. **Good maintenance.**

WADSWORTH CANAL WEIR NO.4
Maintained by State of California
Sutter Maintenance Yard

Upstream side of structure from the left bank levee.

View of the downstream side of structure.

SUTTER BYPASS WEIR NO. 2

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of concrete weir structure.**

   a. **Good.**

2. **Condition of concrete abutments.**

   a. **Good.**

3. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

4. **Vegetation around structure or in the channel.**

   a. **None.**

5. **Comments:**

   a. **Good maintenance.**

SUTTER BYPASS WEIR NO. 2
Maintained by State of California
Sutter Maintenance Yard

Upstream side of the structure.

Downstream side of the structure.

NELSON BEND ROCK QUARRY WEIR

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of quarry rock weir section.**

   a. **Good.**

2. **Condition of revetments.**

   a. **Good.**

3. **Accumulation of trash and debris around structure or in the channel.**

   a. **Areas of debris exist along the weir and in the channel.**

4. **Vegetation around structure or in the channel.**

   a. **Vegetation is very heavy, with trees, brush and berries on the weir section and in the rock revetments.**

5. **Comments:**

   a. **No clearing done since 1985. The vegetation is extremely dense and could impair the functioning of the weir.**

   b. **Poor maintenance.**

   c. **An unauthorized barricade has been installed at each end of Nelson Bend Rock Quarry Weir.**

NELSON BEND ROCK QUARRY WEIR
Maintained by State of California
Sutter Maintenance Yard

View of the weir from the north/east end.

View of the weir from the south/west end.

KNIGHTS LANDING OUTFALL STRUCTURE

Maintained by State of California
Sutter Maintenance Yard

1. **Condition of outfall structure.**

   a. **Good.**

2. **Condition of bulkheads.**

   a. **Fair. The large vertical crack and displacement on the downstream side, left bank, has not changed in several years. The crack is not accessible for measurement, but the overall width is estimated to be 1 inch.**

   b. **The concrete construction joint between the left bulkhead and the outfall structure, upstream side, passes water when the Sacramento River is at high stage. Passage of water was first noticed in 1980.**

   c. **Horizontal crack on the upstream left bulkhead.**

3. **Condition of the pipes.**

   a. **Good.**

4. **Condition of the control gates, mechanisms, and flap gates.**

   a. **Good.**

5. **Condition of electrical equipment.**

   a. **Good.**

6. **Condition of the gauging house and equipment.**

   a. **Good.**

7. **Condition of the log boom.**

   a. **Good.**

8. **Condition of fill from bulkheads to levee.**

   a. **Good.**

9. Accumulation of trash and debris around the structure or in the channel.

a. Minimal.

10. Comments:

a. Structure is inspected and maintained daily.

b. The seepage through the structure should be monitored during high water stages.

c. Sacramento Maintenance Facility performs a yearly pre-season inspection of the structure and its components.

c. Clear vegetation on and around log boom.

e. Good maintenance.

KNIGHTS LANDING OUTFALL STRUCTURE
Maintained by State of California
Sacramento Maintenance Yard

Upstream side of structure from the left bank.

Downstream side of the structure from the left bank.

FREMONT WEIR
Maintained by State of California
Sacramento Maintenance Yard

1. **Condition of concrete weir and stilling basin.**

   a. **Some cracks and spalling exist on the weir and in the stilling basin as previously reported.**

2. **Condition of concrete abutment.**

   a. **Good.**

   b. **The crack on the downstream side of the right (south) abutment, and the two cracks on the right abutment at Rattlesnake Island, have not enlarged.**

   c. **North abutment has large cracks on east side.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **Minimal.**

5. **Vegetation around the structure or in the channel.**

   a. **Minimal.**

   b. **Minimal.**

6. **Condition of gauging house and equipment.**

   a. **Good.**

7. **Comments:**

   a. **Monitor the cracks and spalling and repair as needed.**

   b. **Remove debris from the stilling basin prior to flood season.**

   c. **Good maintenance.**

FREMONT WEIR
Maintained by State of California
Sacramento Maintenance Yard

View of the weir and stilling basin from the south abutment.

View of the weir, looking towards Rattlesnake Island.

FREMONT WEIR
Maintained by State of California
Sacramento Maintenance Yard

View of the weir and stilling basin from the north abutment. Note the crack in the abutment wall.

CACHE CREEK SETTLING BASIN WEIR AND DRAINAGE STRUCTURE

Maintained by State of California
Sacramento Maintenance Yard

1. **Condition of concrete weir structure and stilling basin.**

   a. **Good.**

2. **Condition of drainage structure.**

   a. **Good.**

3. **Condition of concrete abutments and wing walls.**

   a. **Good.**

4. **Condition of revetment.**

   a. **Good.**

5. **Accumulation of trash and debris around the structures or in the channels.**

   a. **Debris has not yet been cleared from around the drainage structure.**

6. **Vegetation around the structures or in the channel.**

   a. **None.**

7. **Comments:**

   a. **Remove the accumulated debris around the drainage structure.**

   b. **Good maintenance.**

CACHE CREEK SETTLING BASIN WEIR AND DRAINAGE STRUCTURE

Maintained by State of California
Sacramento Maintenance Yard

View of the weir and stilling basin.

View of the drainage structure located in the southwest corner of the Cache Creek Settling Basin.

CACHE CREEK SETTLING BASIN WEIR AND DRAINAGE STRUCTURE

Maintained by State of California
Sacramento Maintenance Yard

View of the outlet for the drainage structure.

SACRAMENTO WEIR
Maintained by State of California
Sacramento Maintenance Yard

1. **Condition of concrete weir section and stilling basin.**

   a. **Good.**

2. **Condition of concrete bulkheads.**

   a. **Good.**

3. **Condition of the needle boards, batting and boots (hinges).**

   a. **Good.**

4. **Condition of tripping mechanisms.**

   a. **Good.**

5. **Condition of the metal stop logs, cables and clamps used to retain the needle boards.**

   a. **Good.**

6. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

7. **Vegetation around the structure or in the channel.**

   a. **Minimal.**

8. **Comments:**

   a. **Good maintenance.**

SACRAMENTO WEIR
Maintained by State of California
Sacramento Maintenance Yard

View of the downstream side of the weir and stilling basin.

Looking south at the upstream side of the weir.

MAGPIE CREEK PUMPING PLANT
Maintained by City of Sacramento

1. **Condition of main pump structure.**
   a. **Good.**
2. **Condition of abutment and wing walls.**
   a. **Good.**
3. **Condition of the pumps and motors.**
   a. **Good.**
4. **Condition of control gates, mechanisms, and flap gates.**
   a. **Good.**
5. **Condition of the electrical equipment.**
   a. **Good.**
6. **Condition of the trash racks.**
   a. **Good.**
7. **Accumulation of trash debris in the sump or in the channel.**
   a. **None.**
8. **Vegetation in the sump or in the inlet channel.**
   a. **None.**
9. **Comments:**
   a. **Good maintenance.**
   b. **There are weekly, monthly and an annual inspection.**
   c. **Replace flap gate.**

MAGPIE CREEK PUMPING PLANT
Maintained by City of Sacramento

**Pumping plant, sump, and trash racks at inlet,
landward side from the left bank levee of the Natomas East Main Drain.**

**Discharge end of structure on the water ward side
from the left bank levee of the Natomas East Side Drain.**

AMERICAN RIVER PUMPING PLANT NO.1

Maintained by Sacramento County as
Howe Avenue Storm Drain D - 05

1. **Condition of the main pump structure.**

   a. **Good.**

2. **Condition of abutments and wing walls.**

   a. **Good.**

3. **Condition of pumps and motors.**

   a. **Good.**

4. **Condition of gate controls, mechanisms and flap gates.**

   a. **Good.**

5. **Condition of electrical equipment.**

   a. **Good.**

6. **Condition of the trash racks.**

   a. **Good.**

7. **Accumulation of trash and debris in the sump or around the structure.**

   a. **None.**

8. **Vegetation in the sump or in the inlet channel.**

   a. **None.**

9. **Comments:**

   a. **Inspection and tests of all systems are conducted yearly.**
      Annual maintenance on system done in June and July.

   b. **Remove K-Rail from the inlet on landward side of the right bank levee.**

   c. **Outstanding maintenance.**

AMERICAN RIVER PUMPING PLANT NO.1
Maintained by Sacramento County as Howe Avenue Storm Drain D - 05

Pumping plant, sump and trash racks on the right bank levee of the American River.

Gates and controls at the discharge side of the pumping plant.

AMERICAN RIVER PUMPING PLANT NO.1

Maintained by Sacramento County as
Willhaggin Storm Drain D – 43

1. **Condition of the main pump structure.**

   a. **Good.**

2. **Condition of abutments and wing walls.**

   a. **There is a 3⅝ inch deflection in the retaining wall next to the stairway on the west side of structure.**

3. **Condition of pumps and motors.**

   a. **Good.**

4. **Condition of control gates, mechanisms, and flap gates.**

   a. **Good.**

5. **Condition of electrical equipment.**

   a. **Good.**

6. **Condition of trash racks.**

   a. **Good.**

7. **Accumulation of trash and debris in the upper and lower sumps.**

   a. **None.**

8. **Vegetation in the upper and lower sumps.**

   a. **None.**

9. **Comments:**

   a. **Inspections and tests of all systems are conducted yearly. All maintenance done in September and October.**

   b. **There has been no measurable change in the 3⅝ inch deflection in the western retaining wall since last reported in 1998.**

   c. **Outstanding maintenance.**

AMERICAN RIVER PUMPING PLANT NO.1
Maintained by Sacramento County as Willhaggin Storm Drain D – 43

View of the pumping plant, sump and trash racks.

Gate controls and flap gates on the discharge side of the pumping plant.

AMERICAN RIVER PUMPING PLANT NO.1
Maintained by Sacramento County as Willhaggin Storm Drain D – 43

Three and five eighth inch deflection in the west retaining wall.

ELK SLOUGH INLET STRUCTURE
Maintained by Reclamation District No. 999

1. **Condition of inlet structure.**

   a. **Good.**

2. **Condition of control gate mechanism.**

   a. **Good.**

3. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

4. **Vegetation around the structure.**

   a. **Minor growth around outlet.**

5. **Comments:**

   a. **Monitor and remove growth around outlet as needed.**

   b. **Good maintenance.**

ELK SLOUGH INLET STRUCTURE
Maintained by Reclamation District No. 999

View of the gate control mechanism box.

**View of the discharge side into Elk Slough.
The structure is under water.**

CHAPTER II

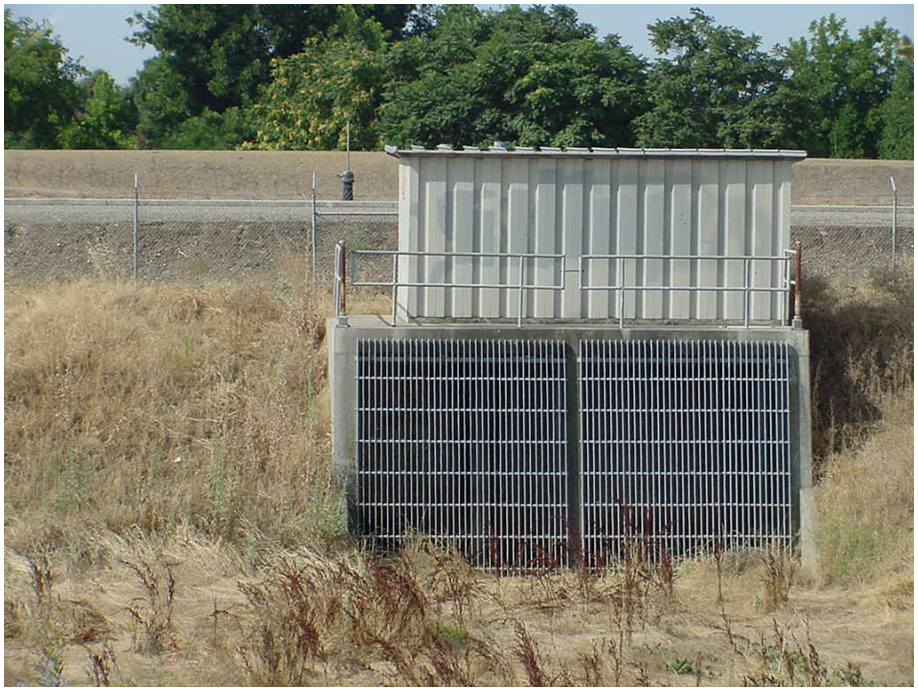
FLOOD CONTROL STRUCTURES INSPECTED ON THE SAN JOAQUIN RIVER AND TRIBUTARIES

2005

MORMON SLOUGH PUMPING PLANT NO. 1
Maintained by San Joaquin County

1. **Condition of main pump structure.**
   a. **Good.**
2. **Condition of pumps and motors.**
   a. **Good.**
3. **Condition of control gates, mechanisms and flap gates.**
   a. **Good.**
4. **Condition of electrical equipment.**
   a. **Good.**
5. **Condition of trash racks.**
   a. **Good.**
6. **Accumulation of trash and debris in the sump.**
   a. **None.**
7. **Vegetation in the sump.**
   a. **None.**
8. **Comments:**
   a. **Good maintenance.**
   b. **Bullet holes on the front and east side of the structure.**
   c. **Large hole on east side under the screen area.**

MORMON SLOUGH PUMPING PLANT NO. 1
Maintained by San Joaquin County



View of the pumping plant, sump and trash racks.

The outlet for the pumping plant, screw gate and flood wall.

MORMON SLOUGH PUMPING PLANT NO. 2
Maintained by San Joaquin County

1. **Condition of main pump structure.**
   a. **Good.**
2. **Condition of pumps and motors.**
   a. **Good.**
3. **Condition of control gates, mechanisms and flap gates.**
   a. **Good.**
4. **Condition of electrical equipment.**
   a. **Good.**
5. **Condition of trash racks.**
   a. **Good.**
6. **Accumulation of trash and debris in the sump.**
   a. **None.**
7. **Vegetation in the sump.**
   a. **None.**
8. **Comments:**
   a. **Good maintenance.**

MORMON SLOUGH PUMPING PLANT NO. 2
Maintained by San Joaquin County

View of the pumping plant, sump and trash racks at the intake.

The outlet control mechanism and flood wall.

MORMON SLOUGH PUMPING PLANT NO. 2
Maintained by San Joaquin County

View of the pumps and interior of the pump house.
This is typical of all Mormon Slough pumping plants.

MORMON SLOUGH PUMPING PLANT NO. 3
Maintained by San Joaquin County

1. **Condition of main pump structure.**

   a. **Good.**

2. **Condition of pumps and motors.**

   a. **Good.**

3. **Condition of control gates, mechanisms and flap gates.**

   a. **Good.**

4. **Condition of electrical equipment.**

   a. **Good.**

5. **Condition of trash racks.**

   a. **Good.**

6. **Accumulation of trash and debris in the sump.**

   a. **None.**

7. **Vegetation in the sump.**

   a. **None.**

8. **Comments:**

   a. **Good maintenance.**

MORMON SLOUGH PUMPING PLANT NO. 3
Maintained by San Joaquin County

The pumping plant, sump and trash racks at the intake.

The outlet side for the pumping plant, screw gate and flood wall.

DUCK CREEK DIVERSION WEIR AND CONTROL STRUCTURE

Maintained by San Joaquin County

1. **Condition of concrete control structure.**
   a. **Good.**
2. **Condition of abutments and wing walls.**
   a. **Good.**
3. **Condition of control gate and mechanism.**
   a. **Good.**
4. **Condition of the concrete weir structure.**
   a. **Good.**
5. **Condition of the revetment.**
   a. **Good.**
6. **Accumulation of trash and debris around the structure or in the channel.**
   a. **Good.**
7. **Vegetation around the structure or in the channel.**
   a. **Small trees growing in the channel.**
8. **Comments:**
   a. **Remove vegetation.**
   b. **Good maintenance.**

DUCK CREEK DIVERSION WEIR AND CONTROL STRUCTURE

Maintained by San Joaquin County

Looking north at the weir and the Corps of Engineers gauging house.

View of the intake side of the control structure and screw gate.

PARADISE DAM
No Maintaining Agency

1. **Condition of the concrete rubble dam section.**

   a. **Good.**

2. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

3. **Vegetation around the structure and in the channel.**

   a. **The willow trees along the upstream side of the structure are 12 to 15 feet tall and could alter the proper design function of the dam.**

4. **Comments:**

   a. **Willow trees should be removed.**

   b. **Maintenance responsibilities need to be addressed and determined.**

PARADISE DAM
No Maintaining Agency

**Looking south at the upstream side of the dam.
Note the willow growth in front of the structure.**

**Looking southeast at the downstream side of the structure.
The San Joaquin river is in the background.**

WETHERBEE LAKE PUMPING PLANT AND NAVIGATION GATE

Maintained by Reclamation District No. 2096

1. **Condition of main pump structure.**

   a. **Good.**

2. **Condition of the navigation gate structure.**

   a. **Good.**

3. **Condition of the abutments and wing walls.**

   a. **Good, but there is a ¾ inch separation in the joint between left retainer wall and wing wall. It has remained stable for several years.**

4. **Condition of pumps and motors.**

   a. **Good.**

5. **Condition of flap gates.**

   a. **Good.**

6. **Condition of electrical equipment.**

   a. **Good.**

7. **Condition of the trash rack.**

   a. **Good.**

8. **Condition of the gate hoist mechanism.**

   a. **Good.**

9. **Condition of the revetment.**

   a. **Good.**

10. **Accumulation of trash and debris around the structure or in the channel.**

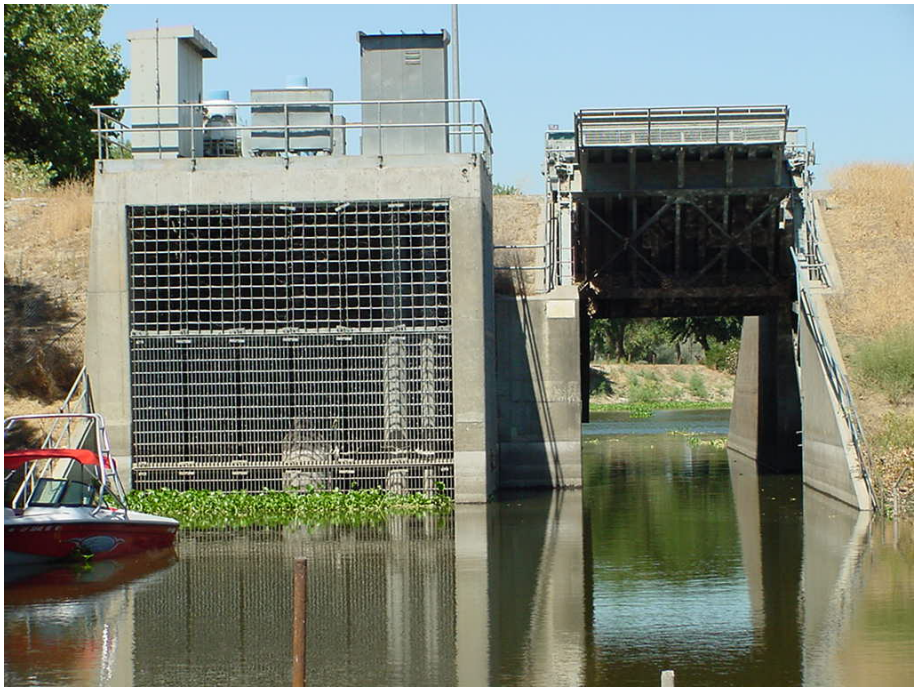
    a. **None.**

11. **Comments:**

    a. **Good maintenance.**

WETHERBEE LAKE PUMPING PLANT AND NAVIGATION GATE

Maintained by Reclamation District No. 2096



View of the pump house intake and the radial gate.

View of the structure outlet and boat channel.

GOMES LAKE PUMPING PLANT
Maintained by Turlock Irrigation District

1. **Condition of main pump structure.**

   a. **Good.**

2. **Condition of pumps and motors.**

   a. **Good.**

3. **Condition of the switchboard house and the electrical equipment.**

   a. **Good.**

4. **Condition of the control gates, mechanism and flap gates.**

   a. **Good.**

5. **Condition of the trash racks.**

   a. **Good.**

6. **Condition of the gauging house and equipment.**

   a. **Good.**

7. **Condition of the revetment.**

   a. **Good.**

8. **Accumulation of trash and debris around structure or in the channel.**

   a. **Minimal.**

9. **Vegetation around the structure or in the channel.**

   a. **None.**

10. **Comments:**

    a. **Good Maintenance.**

GOMES LAKE PUMPING PLANT
Maintained by Turlock Irrigation District

View of the pumping plant, sump and trash racks.

The outlet gate mechanisms.

GOMES LAKE PUMPING PLANT
Maintained by Turlock Irrigation District

The pumping plant outlet.

RECLAMATION DISTRICT NO 2063 PUMPING PLANT
(Nelson Drain)
Maintained by Reclamation District No. 2063

1. **Condition of main pump structure.**
   a. **Good.**
2. **Condition of abutments and wing walls.**
   a. **Good.**
3. **Condition of pump and motor.**
   a. **Good.**
4. **Condition of control gate, mechanism and flap gates.**
   a. **Good.**
5. **Condition of the trash racks.**
   a. **Good.**
6. **Accumulation of trash and debris around the structure or in the channel.**
   a. **Minimal.**
7. **Vegetation around the structure or in the outlet channel.**
   a. **Minimal.**
8. **Comments:**
   a. **Good Maintenance.**

RECLAMATION DISTRICT NO 2063 PUMPING PLANT
(Nelson Drain)
Maintained by Reclamation District No. 2063

The pumping plant intake and trash racks.

The discharge pipes and outlet channel.

BLACK RASCAL CREEK DROP STRUCTURE

Maintained by
Merced Irrigation District for Merced County

1. **Condition of concrete drop structure.**
   a. **Good.**
2. **Condition of concrete abutments.**
   a. **Good.**
   b. **Separation of the left bank wall is stable.**
3. **Condition of revetment.**
   a. **Good.**
4. **Accumulation of trash and debris around the structure or in the channel.**
   a. **None.**
5. **Vegetation around the structure or in the channel.**
   a. **Moderate growth in the channel, upstream of the structure.**
6. **Comments:**
   a. **Remove vegetation upstream of the structure.**
   b. **Fair maintenance.**

BLACK RASCAL CREEK DROP STRUCTURE
Maintained by
Merced Irrigation District for Merced County

The upstream side of the structure.

The downstream side of the structure.

OWENS CREEK SIPHON STRUCTURE

Maintained by
Merced Irrigation District for Merced County

1. **Condition of concrete siphon structure.**

   a. **Good.**

2. **Condition of concrete abutments and wing walls.**

   a. **Good.**

   b. **Separation of the left bank wall is stable.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

5. **Vegetation around the structure or in the channel.**

   a. **There is dense tule and weed growth in the channel immediately upstream and downstream of the structure.**

6. **Comments:**

   a. **Remove weeds and tule growth. Inspection is limited due to excessive vegetation.**

   b. **Fair maintenance.**

OWENS CREEK SIPHON STRUCTURE
Maintained by
Merced Irrigation District for Merced County

The upstream side of the structure.

The downstream side of the structure.

ASH AND BERENDA SLOUGH CONTROL STRUCTURE

(Bifurcation)
Maintained by Madera County F.C. & W.C.A.

1. **Condition of concrete control structures.**

   a. **Good.**

2. **Condition of concrete abutments and wing walls.**

   a. **Good.**

3. **Condition of stop logs and supports.**

   a. **Good.**

4. **Condition of revetments.**

   a. **Good.**

5. **Accumulation of trash and debris around the structures or in the channels.**

   a. **None.**

6. **Vegetation around the control structures or in the channels.**

   a. **Moderate vegetation in the channel downstream of the Ash Slough structure. (See 2005 Channel Report)**

7. **Comments:**

   a. **Remove the vegetation from the channel and around the structure.**

   b. **Good maintenance.**

ASH AND BERENDA SLOUGH CONTROL STRUCTURE
Maintained by Madera County F.C. & W.C.A.

The upstream side of the Berenda structure.

The downstream side of the Berenda structure.

ASH AND BERENDA SLOUGH CONTROL STRUCTURE
Maintained by Madera County F.C. & W.C.A.

The upstream side of the Ash structure.

The downstream side of the Ash structure.
Note the dense vegetation.

FRESNO RIVER DIVERSION WEIR
Maintained by Madera County F.C. & W.C.A.

1. **Condition of concrete weir structure, stilling basin, and velocity dissipaters.**
   a. **Good.**
2. **Condition of the diversion structure.**
   a. **Good.**
3. **Condition of the concrete abutments and wing walls.**
   a. **Good.**
4. **Condition of control gate and mechanisms.**
   a. **Good.**
5. **Condition of revetments.**
   a. **Good.**
6. **Accumulation of trash and debris around the structures or in the channel.**
   a. **None.**
7. **Vegetation around the structures or in the channel.**
   a. **Moderate growth in channel and around the structure.**
8. **Condition of gauging house and equipment.**
   a. **Good.**
9. **Comments:**
   a. **Remove the growth from the structure and channel.**
   b. **Good maintenance.**

FRESNO RIVER DIVERSION WEIR
Maintained by Madera County F.C. & W.C.A.

View of the velocity dissipaters, stilling basin and weir.

Looking south at the diversion weir.

BEAR CREEK DIVERSION STRUCTURE
Maintained by Lower San Joaquin Levee District

1. Condition of concrete weir structure and stilling basin.
    a. Good.
2. Condition of concrete abutments and wing walls.
    a. Good.
3. Condition of revetment.
    a. Damage to both banks upstream of the structure.
4. Accumulation of trash and debris around the structure or in the channel.
    a. None.
5. Vegetation around the structure or in the channel.
    a. Moderate.
6. Comments:
    a. Monitor and repair revetment as needed.
    b. Remove vegetation.
    c. Good maintenance.

BEAR CREEK DIVERSION STRUCTURE
Maintained by Lower San Joaquin Levee District

The upstream side of the structure.

The downstream side of the structure.

OWENS CREEK CONTROL STRUCTURE
Maintained by Lower San Joaquin Levee District

1. **Condition of concrete control structure.**

   a. **Good.**

2. **Condition of abutments and wing walls.**

   a. **There are 2 inch cracks, four to five feet in length in the right and left bank abutments.**

3. **Condition of stop logs and supports.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

5. **Vegetation around the structure or in the channel.**

   a. **Minimal.**

6. **Comments:**

   a. **This structure was in existence prior to the construction of the project and is a part of the Lower San Joaquin Levee District but is operated by Eastside Canal Company.**

   b. **Monitor and repair the cracks in the abutments as needed.**

   c. **Fair maintenance.**

   d. **Wooden bridge crossing has new timber, replaced by L.S.J.L.D.**

OWENS CREEK CONTROL STRUCTURE
Maintained by Lower San Joaquin Levee District

The upstream side of the structure.

The downstream side of the structure.

OWENS CREEK CONTROL STRUCTURE
Maintained by Lower San Joaquin Levee District

The 2 inch crack in the left bank abutment on the upstream side has been temporarily repaired.

OWENS CREEK OVERFLOW STRUCTURE
Maintained by Lower San Joaquin Levee District

1. **Condition of the concrete overflow structure.**
    a. **Good.**
2. **Condition of the abutments and wing walls.**
    a. **Good.**
3. **Condition of the control gates and mechanism.**
    a. **Good.**
4. **Condition of the revetment.**
    a. **Good.**
5. **Accumulation of trash and debris around the structure or in the channel.**
    a. **None.**
6. **Vegetation around the structure or in the channel.**
    a. **Minimal. Increase of discharge side.**
7. **Comments:**
    a. **Good maintenance.**

OWENS CREEK OVERFLOW STRUCTURE
Maintained by Lower San Joaquin Levee District

View of the two 72 inch slide gates at the intake side of the structure.

View of the discharge side of the structure into the Eastside Bypass.

MARIPOSA BYPASS CONTROL STRUCTURE
Maintained by Lower San Joaquin Levee District

1. **Condition of concrete control structure.**

   a. **Good.**

2. **Condition of abutments and wing walls.**

   a. **Good.**

3. **Condition of radial gate and mechanisms.**

   a. **Good.**

4. **Condition of electrical equipment.**

   a. **Good.**

5. **Condition of gate hoist equipment.**

   a. **Good.**

6. **Condition of revetments.**

   a. **Good.**

7. **Accumulations of trash and debris around the structure or in the channel.**

   a. **None.**

8. **Vegetation around the structure or in the channel.**

   a. **None.**

9. **Comments:**

   a. **All the equipment is tested and serviced prior to flood season each year by the District.**

   b. **Good maintenance.**

MARIPOSA BYPASS CONTROL STRUCTURE
Maintained by Lower San Joaquin Levee District

The upstream side of the structure.

The downstream side of the structure.

MARIPOSA BYPASS DROP STRUCTURE
Maintained by Lower San Joaquin Levee District

1. **Condition of concrete drop structure, stilling basin, and velocity dissipaters.**

   a. **Good.**

2. **Condition of concrete abutments and wing walls.**

   a. **The left wing wall has a 3 inch separation at the joint but appears to be stable.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

5. **Vegetation around the structure or in the channel.**

   a. **None.**

6. **Comments:**

   a. **Monitor the left wing wall during high water.**

   b. **Good maintenance.**

MARIPOSA BYPASS DROP STRUCTURE
Maintained by Lower San Joaquin Levee District

The upstream side of the structure.

The downstream side of the structure .

EASTSIDE BYPASS CONTROL STRUCTURE
Maintained by Lower San Joaquin Levee District

1. **Condition of concrete control structure.**

   a. **Good.**

2. **Condition of abutments and wing walls.**

   a. **Good.**

3. **Condition of radial gate and mechanisms.**

   a. **Good.**

4. **Condition of electrical equipment.**

   a. **Good.**

5. **Condition of gate hoist equipment.**

   a. **Good.**

6. **Condition of engine generator set.**

   a. **Good.**

7. **Condition of float wells and allied equipment.**

   a. **Good.**

8. **Condition of revetment.**

   a. **Good.**

9. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

10. **Vegetation around the structure or in the channel.**

    a. **Minimal.**

11. **Comments:**

    a. **All the equipment is tested and serviced prior to flood season each year.**

    b. **Good maintenance.**

EASTSIDE BYPASS CONTROL STRUCTURE
Maintained by Lower San Joaquin Levee District

The upstream side of the structure.

The downstream side of the structure.

SAN JOAQUIN RIVER STRUCTURE
AND SAND SLOUGH STRUCTURE
Maintained by Lower San Joaquin Levee District

1. **Condition of San Joaquin River structure.**

    a. **Good.**

2. **Condition of the abutments, wing walls, and bulkheads.**

    a. **Good.**

3. **Condition of control gates and mechanisms.**

    a. **Good.**

4. **Condition of the Sand Slough structure (Parshall flume) and wing walls.**

    a. **Good.**

5. **Condition of the revetment.**

    a. **Good.**

6. **Accumulation of trash or debris around structure or in the channel.**

    a. **None.**

7. **Comments:**

    a. **This structure is tested and serviced prior to each flood season.**

    b. **Good maintenance.**

SAN JOAQUIN RIVER STRUCTURE
AND SAND SLOUGH STRUCTURE
Maintained by Lower San Joaquin Levee District

View of the control gates at the intake of the structure.

View of the outlet channel.

SAN JOAQUIN RIVER STRUCTURE
AND SAND SLOUGH STRUCTURE
Maintained by Lower San Joaquin Levee District

Looking upstream at the Sand Slough structure.

FRESNO RIVER DRAINAGE STRUCTURE
Maintained by Lower San Joaquin Levee District

1. **Condition of concrete drainage structure.**

    a. **Good.**

2. **Condition of abutments and wing walls.**

    a. **Good.**

3. **Condition of control gate, mechanism, and flap gate.**

    a. **The control gate mechanism is bent.**

4. **Condition of revetment.**

    a. **Good.**

5. **Accumulation of trash and debris around the structure or in the channel.**

    a. **Good.**

6. **Vegetation around the structure or in the channel.**

    a. **Moderate.**

7. **Comments:**

    a. **Repair the control gate mechanism.**

    b. **Fair maintenance.**

FRESNO RIVER DRAINAGE STRUCTURE
Maintained by Lower San Joaquin Levee District

The intake side of the structure.

The discharge side of the structure and the control mechanism.

FRESNO RIVER DRAINAGE STRUCTURE
Maintained by Lower San Joaquin Levee District

The damaged control gate mechanism.

ASH SLOUGH DROP STRUCTURE NO. 1
Maintained by Lower San Joaquin Levee District

1. **Condition of concrete drop structure, stilling basin, and velocity dissipaters.**

   a. **Good.**

2. **Condition of concrete abutments and wing walls.**

   a. **Good.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

5. **Vegetation around the structure or in the channel.**

   a. **None.**

6. **Comments:**

   a. **Good maintenance.**

ASH SLOUGH DROP STRUCTURE NO. 1
Maintained by Lower San Joaquin Levee District

The abutments, stilling well and velocity dissipaters.

ASH SLOUGH DROP STRUCTURE NO. 2
Maintained by Lower San Joaquin Levee District

1. **Condition of concrete drop structure, stilling basin, and velocity dissipaters.**

   a. **Good.**

2. **Condition of concrete abutments and wing walls.**

   a. **Good.**

3. **Condition of revetments.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **Sand has accumulated in the stilling basin.**

5. **Vegetation around the structure or in the channel.**

   a. **None.**

6. **Comments:**

   a. **Good maintenance.**

ASH SLOUGH DROP STRUCTURE NO. 2
Maintained by Lower San Joaquin Levee District

The downstream side of the structure.
Sand is accumulating in the stilling basin.

ASH SLOUGH DROP STRUCTURE NO. 3
Maintained by Lower San Joaquin Levee District

1. **Condition of concrete drop structure, stilling basin and velocity dissipaters.**

   a. **Good, except the velocity dissipaters are covered with sand.**

2. **Condition of concrete abutments and wing walls.**

   a. **Good.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

5. **Vegetation around the structure or in the channel.**

   a. **None.**

6. **Comments:**

   a. **This structure is in good condition but needs to have the sand removed from the stilling basin and from around the velocity dissipaters.**

   b. **Fair maintenance.**

ASH SLOUGH DROP STRUCTURE NO. 3
Maintained by Lower San Joaquin Levee District

The partially sand filled stilling basin.
The velocity dissipaters are covered by sand.

ASH SLOUGH DROP STRUCTURE NO. 4
Maintained by Lower San Joaquin Levee District

1. Condition of concrete drop structure, stilling basin, and velocity dissipaters.

   a. What can be seen is in good condition, but a seasonal sand dam is in place backing up water for irrigation purposes on the upstream side.

2. Condition of concrete abutment wing walls.

   a. Good.

3. Condition of revetment.

   a. Good.

4. Accumulation of trash and debris around the structure or in the channel.

   a. None.

5. Vegetation around the structure or in the channel.

   a. Minimal.

6. Condition of the gauging house and equipment.

   a. The gauging house is completely non-functional. A placard on the damaged door indicates that this is a DWR gauging station.

7. Comments:

   a. The seasonal sand dam on the upstream side is for irrigation purposes and can be easily breached or washed out in the event of high water.

   b. Remove bamboo.

   c. Determine the status of the gauging house and report findings to the Flood Project Inspection Section.

   d. Unable to perform an adequate inspection of the structure due to the sand dam.

ASH SLOUGH DROP STRUCTURE NO. 4
Maintained by Lower San Joaquin Levee District

The downstream side of the drop structure and the seasonal sand dam.

View of the non-functional gauging house and equipment.

EASTSIDE BYPASS DROP STRUCTURE NO. 1
Maintained by Lower San Joaquin Levee District

1. **Condition of concrete drop structure, stilling basin and velocity dissipaters.**

   a. **Good.**

2. **Condition of concrete abutments and wing walls.**

   a. **Good.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **None.**

5. **Vegetation around the structure or in the channel.**

   a. **None.**

6. **Comments:**

   a. **Good maintenance.**

EASTSIDE BYPASS DROP STRUCTURE NO. 1
Maintained by Lower San Joaquin Levee District

Overview of the stilling basin and the velocity dissipaters.

Looking northeast at the drop structure.

EASTSIDE BYPASS DROP STRUCTURE NO. 2
Maintained by Lower San Joaquin Levee District

1. **Condition of concrete structure, stilling basin, and velocity dissipaters.**

   a. **Good.**

2. **Condition of concrete abutments and wing walls.**

   a. **Good.**

3. **Condition of revetment.**

   a. **Good.**

4. **Accumulation of trash and debris around the structure or in the channel.**

   a. **Minimal.**

5. **Vegetation and debris around the structure or in the channel.**

   a. **None.**

6. **Comments:**

   a. **Good maintenance.**

EASTSIDE BYPASS DROP STRUCTURE NO. 2
Maintained by Lower San Joaquin Levee District

Overview of the stilling basin, velocity dissipaters and revetment.

Looking east at the drop structure.

SAN JOAQUIN RIVER AND
CHOWCHILLA CANAL BYPASS CONTROL STRUCTURE
Maintained by Lower San Joaquin Levee District

1. **Condition of the San Joaquin River Control Structure.**

   a. **Good.**

2. **Condition of the Chowchilla Canal Bypass Structure.**

   a. **Good.**

3. **Condition of the abutments and wing walls.**

   a. **Good.**

4. **Condition of the radial gates and mechanisms.**

   a. **Good.**

5. **Condition of the gate hoist equipment.**

   a. **Good.**

6. **Condition of the engine generator set.**

   a. **Good.**

7. **Condition of the float wells and equipment.**

   a. **Good.**

8. **Accumulation of trash and debris around the structures or in the channel.**

   a. **None.**

9. **Vegetation around the structures or in the channel.**

   a. **Minimal.**

10. **Comments:**

    a. **All the equipment is tested and serviced prior to flood season each year.**

    b. **Good maintenance.**

SAN JOAQUIN RIVER AND CHOWCHILLA CANAL BYPASS CONTROL STRUCTURE

Maintained by Lower San Joaquin Levee District

The upstream side of the San Joaquin River structure.

The downstream side of the San Joaquin River structure.

SAN JOAQUIN RIVER AND
CHOWCHILLA CANAL BYPASS CONTROL STRUCTURE
Maintained by Lower San Joaquin Levee District

The upstream side of the Chowchilla Canal Bypass structure.

The downstream side of the structure into the Chowchilla Canal bypass.